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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,230	07/28/2003	Vladek P. Kasperchik	100201792-1	6646

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EXAMINER	
SHAH, MANISH S	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/629,230	KASPERCHIK ET AL.	
	Examiner	Art Unit	
	Manish S. Shah	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-8 & 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (# EP 1184195 A2) in view of Ogawa et al. (# US 5576088).

Wexler discloses a method of printing a photographic quality image ([0033]); a method of producing a fusible print medium, wherein a fusible printing medium including a photobase layer (support) (see Abstract); a vehicle sink layer (base layer) (see Abstract); and a color receiving layer (porous top layer) (see Abstract) have a phase conversion that encapsulates a colorant in the colorant receiving layer, wherein colorant receiving layer includes core-shell polymer particle (see Abstract; [0009]) having a shell of inorganic colloidal particle ([0009]) and a core of thermoplastic polymer (see Abstract; [0009]). They also disclose that the hydrophilic shell includes the colloidal latex particles ([0019]), and fusible hydrophobic core is selected from the group including of a copolymer of acrylate and methacrylate, a styrene-acrylic polymer, vinyl acetate-acrylic ([0012]-[0013]). They also disclose that the colorant receiving layer is configured to invert from a porous, hydrophilic surface to a continuous layer having a hydrophobic surface upon exposure to heat, pressure or combination, and temperature greater than

a glass transition temperature of the fusible hydrophobic core (see Examples; [0053]-[0055]).

Wexler differs from the claim of the present invention in that the colorant receiving layer including core-shell polymer particle having a hydrophilic shell and fusible hydrophobic core, wherein hydrophilic shell includes a latex vinyl polymer.

Ogawa et al. teaches that to get the high printed image density and high gloss (column: 11, line: 1-10), the color-receiving layer includes hydrophilic binder, which includes a latex vinyl polymer particle (column: 11, line: 3-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the color-receiving layer of Wexler by the aforementioned teaching of Ogawa et al. in order to have a recording medium with the high printed image density and high gloss (column: 11, line: 1-10).

2. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (# US 2003/0143344 A1) in view of Ogawa et al. (# US 5576088).

Yau et al. discloses a method of printing a photographic quality image ([0033]); a method of producing a fusible print medium, wherein a fusible printing medium including a photobase layer (support) ([0035]); a vehicle sink layer (ink retaining layer) ([0029]); and a color receiving layer (see Abstract) have a phase conversion that encapsulates a colorant in the colorant receiving layer, wherein colorant receiving layer includes core-shell polymer particle ([0016]) having a hydrophobic shell ([0017]-[0018]) and a fusible hydrophobic core ([0019]). They also disclose that the colorant receiving layer is

configured to invert from a porous, hydrophilic surface to a continuous layer having a hydrophobic surface upon exposure to heat, pressure or combination, and temperature greater than a glass transition temperature of the fusible hydrophobic core ([0017]-[0018], [0029], see Examples). They also disclose that the fusible hydrophobic core is selected from the group including of a copolymer of acrylate and methacrylate, a styrene-acrylic polymer, vinyl acetate-acrylic ([0017]). They also disclose that the print medium further includes a topcoat layer ([0038]). They also disclose the method of printing including depositing ink onto a fusible printing medium to print desired image; and colorant receiving layer into a continuous hydrophobic film ([0033], [0091]-[0096]).

Yau et al. differs from the claim of the present invention in that the colorant receiving layer including core-shell polymer particle having a hydrophilic shell and fusible hydrophobic core, wherein hydrophilic shell includes a latex vinyl polymer.

Ogawa et al. teaches that to get the high printed image density and high gloss (column: 11, line: 1-10), the color-receiving layer includes hydrophilic binder, which includes a latex vinyl polymer particle (column: 11, line: 3-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the color-receiving layer of Yau et al. by the aforementioned teaching of Ogawa et al. in order to have a recording medium with the high printed image density and high gloss (column: 11, line: 1-10)

3. Claims 1-8 & 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wexler (# EP 1184195 A2) in view of Wang et al. (# US 5756273).

Wexler discloses a method of printing a photographic quality image ([0033]); a method of producing a fusible print medium, wherein a fusible printing medium including a photobase layer (support) (see Abstract); a vehicle sink layer (base layer) (see Abstract); and a color receiving layer (porous top layer) (see Abstract) have a phase conversion that encapsulates a colorant in the colorant receiving layer, wherein colorant receiving layer includes core-shell polymer particle (see Abstract; [0009]) having a shell of inorganic colloidal particle ([0009]) and a core of thermoplastic polymer (see Abstract; [0009]). They also disclose that the hydrophilic shell includes the colloidal latex particles ([0019]), and fusible hydrophobic core is selected from the group including of a copolymer of acrylate and methacrylate, a styrene-acrylic polymer, vinyl acetate-acrylic ([0012]-[0013]). They also disclose that the colorant receiving layer is configured to invert from a porous, hydrophilic surface to a continuous layer having a hydrophobic surface upon exposure to heat, pressure or combination, and temperature greater than a glass transition temperature of the fusible hydrophobic core (see Examples; [0053]-[0055]).

Wexler differs from the claim of the present invention in that the colorant receiving layer including core-shell polymer particle having a hydrophilic shell and fusible hydrophobic core, wherein hydrophilic shell includes a latex vinyl polymer.

Wang et al. teaches that to get the excellent scratch resistance and abrasion resistance (column: 3, line: 30-38), the color receiving layer includes hydrophilic binder and polymer latex particles, wherein polymer latex particle includes hydrophobic core and hydrophilic shell (column: 3, line: 4-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the color-receiving layer of Wexler by the aforementioned teaching of Wang et al. in order to have a recording medium with excellent scratch resistance and abrasion resistance (column: 3, line: 30-38).

4. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (# US 2003/0143344 A1) in view of Wang et al. (# US 5756273).

Yau et al. discloses a method of printing a photographic quality image ([0033]); a method of producing a fusible print medium, wherein a fusible printing medium including a photobase layer (support) ([0035]); a vehicle sink layer (ink retaining layer) ([0029]); and a color receiving layer (see Abstract) have a phase conversion that encapsulates a colorant in the colorant receiving layer, wherein colorant receiving layer includes core-shell polymer particle ([0016]) having a hydrophobic shell ([0017]-[0018]) and a fusible hydrophobic core ([0019]). They also disclose that the colorant receiving layer is configured to invert from a porous, hydrophilic surface to a continuous layer having a hydrophobic surface upon exposure to heat, pressure or combination, and temperature greater than a glass transition temperature of the fusible hydrophobic core ([0017]-[0018], [0029], see Examples). They also disclose that the fusible hydrophobic core is selected from the group including of a copolymer of acrylate and methacrylate, a styrene-acrylic polymer, vinyl acetate-acrylic ([0017]). They also disclose that the print medium further includes a topcoat layer ([0038]). They also disclose the method of

printing including depositing ink onto a fusible printing medium to print desired image; and colorant receiving layer into a continuous hydrophobic film ([0033], [0091]-[0096]).

Yau et al. differs from the claim of the present invention in that the colorant receiving layer including core-shell polymer particle having a hydrophilic shell and fusible hydrophobic core, wherein hydrophilic shell includes a latex vinyl polymer.

Wang et al. teaches that to get the excellent scratch resistance and abrasion resistance (column: 3, line: 30-38), the color receiving layer includes hydrophilic binder and polymer latex particles, wherein polymer latex particle includes hydrophobic core and hydrophilic shell (column: 3, line: 4-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the color-receiving layer of Yau et al. by the aforementioned teaching of Wang et al. in order to have a recording medium with excellent scratch resistance and abrasion resistance (column: 3, line: 30-38).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (# US 2003/0143344 A1) in view of Wang et al. (# US 5756273) as applied to claims 1-15 & 17-19 above, and further in view of DeWacker et al. (# US 5512619).

Yau et al. and Wang et al. discloses all the limitations of the method of ink jet printing except that the coalescing agent selected from 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate, diethylene glycol monobutyl ether.

DeWacker et al. teaches that to get the continuous film coating on the medium, coalescing agent selected from 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate, diethylene glycol monobutyl ether (column: 2, line: 40-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the coalescing agent in to colorant receiving layer of Yau et al. as modified by the aforementioned teaching of DeWacker et al. in order to have uniform continuous film.

Response to Arguments

6. Applicant's arguments filed 07/08/2005 have been fully considered but they are not persuasive. Applicant argued that there is nothing in Wexler suggests the desirability of or provided any objective reason for replacing the inorganic colloidal particles with an organic material, which is not persuasive. Wexler in paragraph [0016] clearly teaches that shell of the core-shell particle used in the invention can be modified. So it is obvious to modify the colloidal latex particles [0019] of Wexler with Wang hydrophilic vinyl latex polymer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manish S. Shah
Primary Examiner
Art Unit 2853

MSS
10/13/05